

# Drinking Water Quality Report 2014

City of Monroe Public Works Department

# Mountain Fresh!



## Clean, Safe Drinking Water Delivered to Your Tap

**Y**our drinking water comes from Spada Lake Reservoir, located about 25 miles north-east of Monroe at the headwaters of the Sultan River. This 50-billion-gallon storage facility serves as a collection point for rain and snowmelt from the Cascade Mountains. It was created in 1964 through a partnership between the City of Everett and the Snohomish County PUD as part of the Jackson Hydroelectric Project.

Spada Lake Reservoir is located in the Upper Sultan River Watershed, an area encompassing more than 80 square miles. This is one of the wettest watersheds in the continental United States. The average annual rainfall is about 165 inches—five times the rainfall in Everett.

Water quality in the Sultan Basin is carefully monitored. To protect the naturally pristine water in Spada Lake Reservoir, the watershed is patrolled and human activities are limited to minimize the impact on water quality. We continue to evaluate and adjust our security measures on an ongoing basis.

## Taste, Quality and Value

Water is a life-essential resource. Yet, at about a penny a gallon, it costs very little compared to its value.

Your water rates pay for everything it takes to operate our water system, from storage and treatment, to delivering the water to your tap. Your water rates also help pay for water system improvements that ensure that we will provide high-quality drinking water for generations to come.

As this year's Drinking Water Quality Report shows, this is an exceptional value for the clean, safe, great-tasting drinking water you receive.



# The Drinking Water Treatment Process

From Spada Reservoir, water travels through a pipeline to Chaplain Reservoir which holds about 4.5 billion gallons of water. This is where the Everett Drinking Water Treatment Plant is located. At the plant, the water is treated with advanced filtration and disinfection.

First, a coagulant is added to the water to cause particles to clump together. Next, the water passes through large filters that remove the particles. These particles can include sediment and natural materials as well as viruses, bacteria and other disease-causing organisms. Finally, sodium hypochlorite

solution is added to the water to kill any organisms that were not removed by the filtration process.

During the treatment process, polymers are added as part of the filtration process, fluoride is added for dental health purposes and soda ash is added to adjust the pH level of water so it is less corrosive on pipes and plumbing fixtures. These additives are carefully monitored and the water is continually tested to make sure it is safe to drink.

1. Precipitation and snowmelt from the mountains are collected in Spada Lake Reservoir.



2. The water treatment process begins at Lake Chaplain Reservoir, where the City's water treatment plant is located.



3. The Everett Drinking Water Treatment Plant treats water using coagulation, flocculation, filtration and disinfection.



4. Water transmission pipelines carry drinking water across Snohomish County.



5. Treated water is delivered to about 570,000 people or 80 percent of the businesses and households in Snohomish County.



# Your Drinking Water Facts and Figures

All water sources (both tap water and bottled water) contain impurities. As water flows over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- Microbial contaminants such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban surface water, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban surface water and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.



In order to ensure that tap water is safe to drink, US Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population.

Immuno-compromised people, such as people with cancer undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA and US Center for Disease Control (CDC) guidelines on appropriate means to lessen risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

## Important Terms:

**Maximum Contaminant Level Goal (MCLG)** – The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Maximum Contaminant Level (MCL)** – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available water treatment technology.

**Maximum Residual Disinfectant Level (MRDL)** – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG)** – The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**Treatment Technique (TT)** – A required process and performance criteria intended to reduce the level of a contaminant in drinking water.

**Action Level (AL)** – The concentration of a contaminant, which, if exceeded, triggers a treatment or other requirements which a water system must follow.

**Parts per Million (ppm)/ Parts per Billion (ppb)/Parts per Trillion (ppt)** – A part per million means that one part of a particular contaminant is present for every million parts of water. Similarly, parts per billion and parts per trillion indicate that one part of a contaminant is present for those quantities of water.

**Not Applicable (N/A)** - Means the EPA has not established MCLGs for these substances.

# 2014 Water Quality Analysis Results

| DETECTED REGULATED CONTAMINANTS   |   |            |                         |                         |                      |                                 |         |
|---|---|------------|-------------------------|-------------------------|----------------------|---------------------------------|---------|
| Parameter   | Major Source                              | Units      | EPA Regulations         |                         | Monroe Water Results |                                 |         |
|   |   |            | Ideal Level/Goal (MCLG) | Maximum Allowable (MCL) | Range or Other       | Average Value or Highest Result | Comply? |
| Nitrate (sampled by Everett staff)  | Erosion of natural deposits, animal waste | ppm        | 10                      | 10                      | 0.011–0.086          | 0.046                           | Yes     |
| Total Coliform Bacteria <sup>1</sup>  | Naturally present in the environment      | % Positive | 0                       | 5% Positive per Month   | 0–3.4%               | 3.4%                            | Yes     |
| Fluoride <sup>2</sup> (sampled by Everett staff)  | Dental health additive                    | ppm        | 2                       | 4                       | 0.2–0.9              | 0.8                             | Yes     |
| Residual Disinfectant Level (free chlorine)   | Added as a drinking water disinfectant    | ppm        | 4.0 (MRDLG)             | 4.0 (MRDL)              | 0.18–0.99            | 0.59                            | Yes     |
| Haloacetic Acids (5) (HAA5)   | By-product of drinking water chlorination | ppb        | N/A                     | 60                      | 22.4–39.0            | 33.7                            | Yes     |
| Total Trihalomethanes (TTHM)  | By-product of drinking water chlorination | ppb        | N/A                     | 80                      | 30.3–72.9            | 62.2                            | Yes     |
| Turbidity <sup>3</sup> (sampled by Everett staff)   | Soil erosion                              | NTU        | N/A                     | TT                      | 100%                 | 0.11                            | Yes     |
| <sup>1</sup> One routine total coliform sample collected in October 2014 was positive. The location was retested and the results were negative.<br><sup>2</sup> 0.8 ppm is the lowest level allowed under current State regulations. The 0.2 value in the range is due to the fact that the fluoride system was shut down for 24 hours in November 2014 for repairs.<br><sup>3</sup> In 2014, no filtered water turbidity results were above the EPA 0.3 NTU limit so 100% met the requirement. |   |            |                         |                         |                      |                                 |         |

| DETECTED UNREGULATED CONTAMINANTS   |       |                         |                      |               |
|---|-------|-------------------------|----------------------|---------------|
| Parameter   | Units | Ideal Level/Goal (MCLG) | Monroe Water Results |               |
|   |       |                         | Range Detected       | Average Value |
| Bromodichloromethane  | ppb   | 0                       | 1.6–2.8              | 2.1           |
| Chloroform (trichloromethane)   | ppb   | 300                     | 28.6–70.6            | 45.6          |
| Dichloroacetic Acid   | ppb   | 0                       | 4.2–16.1             | 10.9          |
| Monochloroacetic Acid   | ppb   | None                    | 2.3–2.9              | N/A           |
| Trichloroacetic Acid  | ppb   | 300                     | 14.1–23.2            | 19.4          |
| These substances are individual disinfection by-products for which no MCL standard has been set, but which must be monitored. |       |                         |                      |               |

| UNREGULATED CONTAMINANT MONITORING RULE 3 (UCMR3) SAMPLING   |   |       |                       |                        |
|--|---|-------|-----------------------|------------------------|
| Parameter  | Major Source                              | Units | Monroe Water Results* | Monroe Water Results** |
|  |   |       | Results               | Results                |
| Chlorate   | By-product of drinking water chlorination | ppb   | 29                    | 43                     |
| Chromium   | Naturally present in the environment      | ppb   | 0.32                  | 0.39                   |
| Chromium-6   | Naturally present in the environment      | ppb   | 0.192                 | 0.223                  |
| Strontium  | Naturally present in the environment      | ppb   | 14.8                  | 15                     |
| Vanadium   | Erosion of natural deposits               | ppb   | ND                    | ND                     |
| 4-androstene-3, 17-dione***  | Naturally present in the environment      | ppt   | <0.3–0.38             |                        |
| Only one set of UCMR3 samples were taken in 2014.    *Samples taken at system entry point.<br>**Samples taken a maximum site in the distribution system.    ***Samples taken at Everett Water Treatment Facility by City of Everett Staff. |   |       |                       |                        |

| LEAD, COPPER AND pH   |  |       |                         |                   |                      |                        |         |
|---|--|-------|-------------------------|-------------------|----------------------|------------------------|---------|
| Parameter   | Major Source   | Units | EPA Regulations         |                   | Monroe Water Results |                        |         |
|   |  |       | Ideal Level/Goal (MCLG) | Action Level (AL) | 90th % Level         | Homes Exceeding the AL | Comply? |
| Lead <sup>1</sup>   | Plumbing, erosion of natural deposits  | ppb   | 0                       | 15                | 8.6                  | None                   | Yes     |
| Copper <sup>1</sup>   | Plumbing, erosion of natural deposits  | ppm   | 1.3                     | 1.3               | 0.0894               | None                   | Yes     |
| pH <sup>2</sup> (sampled by Everett staff)  | Soda ash is used to reduce water corrosivity by increasing pH and alkalinity | s.u.  | Daily Avg 7.6           | Min Daily Avg 7.4 | Average 7.6          | Minimum* 7.4           | Yes     |
| <sup>1</sup> This data was collected in 2012. The next round of sampling will be conducted in 2015.<br><sup>2</sup> The average daily pH cannot be below 7.4 for more than nine days every six months. In 2014, the average daily pH never dropped below 7.4. |  |       |                         |                   |                      |                        |         |

**USEPA required lead statement. The USEPA drinking water regulations require this statement be included with the lead and copper sampling results regardless of the levels observed:**

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Everett Utilities Division is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

## Definitions & Required Statements

### CRYPTOSPORIDIUM:

Cryptosporidium is a one-celled intestinal parasite that if ingested may cause diarrhea, fever, and other gastrointestinal distress. It can be found in all of Washington's rivers, streams, and lakes and comes from animal or human waste in the watershed. Cryptosporidium is resistant to chlorine, but is removed by effective filtration and sedimentation treatment such as that used by Everett. It can also be inactivated by certain types of alternate disinfection processes such as ozonation and UV light contactors. Past monitoring results suggest that Cryptosporidium is present in Everett's source only occasionally and at very low concentrations. In 2014, Everett collected monthly Cryptosporidium oocysts samples from the source water at the plant intakes. No oocysts were detected.

### TREATMENT POLYMERS:

During water treatment, organic polymer coagulants are added to improve the coagulation and filtration processes that remove particulates from water. The particulates that are removed can include viruses, bacteria and other disease causing organisms. The USEPA sets limits on the type and amount of polymer that a water system can add to the water. In addition to the EPA limits, the State of Washington requires that all polymers used be certified safe for potable water use by an independent testing organization (NSF International). During treatment, Everett adds only NSF approved polymers and the levels used are far below the safe limits set by the USEPA.



# Ensuring an Adequate Supply

Water is a precious resource. Conservation helps us meet the needs of people, industries, businesses and farms, while also keeping fish and other aquatic life alive and well. Monroe and several other water systems whom purchase their water from Everett work together to establish a regional conservation program. The program is planned and developed collaboratively among Everett wholesale customers and funded from Everett's water system revenues.

Nearly \$7 million has been invested in regional water conservation activities since 2001. This includes such things as school education, indoor and outdoor water conservation kits, rebates for water efficient clothes washers and toilets, leak detection, business water audits and school irrigation audits. Through these efforts, we collectively saved about 3.7 million gallons per day (MGD) through 2014—enough water to fill more than 87,000 bathtubs a day.



Previous regional conservation programs were planned and implemented in six-year cycles, as part of Everett's comprehensive water plan. The first plan covered the period from 2001 through 2006; the second from 2007 through 2012. Everett is in the process of updating its latest comprehensive plan which will cover the period through 2020. The water conservation program will continue to include school education and conservation kits, and will also include new activities to assist large water users.

In 2014, 34 water conservation workshops were conducted in classrooms throughout the Monroe School District, reaching nearly 850 students. The City of Monroe also distributed 250 indoor conservation kits and 300 outdoor conservation kits to local residents and businesses. These 2014 activities are estimated to have saved about 0.65 MGD regionally.

## CONSERVATION TIPS:

- Install water-efficient showerheads and take shorter showers.
- Fix leaky faucets and toilets. Leaks waste a lot of water.
- Install low-flow toilets. This can reduce indoor water use by as much as 20 percent.
- Only run full loads in your dishwasher and clothes washer.
- Use a soaker hose on steep slopes to prevent wasteful runoff.
- Water small areas by hand to avoid watering the sidewalk and driveway.
- Replace grass in seldom-used areas of your yard with groundcovers and plants that use less water.
- Adjust your mower to a higher setting. A taller lawn retains moisture and requires less water.
- Put a layer of mulch around plants and trees. Mulch holds moisture and discourages weed growth.

## Partnership *for* Safe Water

The Partnership for Safe Water is a voluntary effort supported by more than 200 water utilities, the US Environmental Protection Agency (EPA), the American Water Works Association and other prominent drinking water organizations in the United States. The goal of the program is for participating utilities to use a continuous improvement process developed by the Partnership members.

The program is designed to help drinking water utilities optimize their treatment plants to produce drinking water of a higher quality than is required by regulations. To participate, each treatment plant must demonstrate that it can consistently meet the Partnership's high water-quality standards.

Since the City of Everett began participating in the program more than a decade ago, it has met the performance standards set by the Partnership. Recently, Everett renewed its commitment to continuously improve performance at its water treatment plant and is implementing some of the Partnership's tools to optimize performance at the plant.

The City of Everett will continue to participate in this cooperative effort to strive for excellence. We believe this is the best way to ensure our customers will always receive the highest quality drinking water possible.







**City of Monroe  
Public Works Department**

806 West Main Street  
Monroe, WA 98272

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PERMIT NO. 71  
EVERETT, WA

## **INSIDE:** Your Drinking Water Quality Report

In 2014, your water was tested for more than 100 possible contaminants. What does all the information in this report mean? Simply put, the data confirms that your drinking water meets or exceeds all government standards and is safe to drink.

### ***Your Opinion Matters***

Let us know how we're doing and what you think about your water. Call 360-863-4546 or email us at [jottow@monroewa.gov](mailto:jottow@monroewa.gov).

# **What You Can Do:** **CONSERVE** **BE INFORMED** **GET INVOLVED**

### **City of Monroe Water Quality Office**

Phone: 360-863-4546  
Website: [www.monroewa.gov](http://www.monroewa.gov)

### **State Department of Health (DOH)**

Phone: 1-800-521-0323  
Website: [www.doh.wa.gov/ehp/dw/](http://www.doh.wa.gov/ehp/dw/)

### **US Environmental Protection Agency (EPA)**

Phone: 1-800-426-4791  
Website: [www.epa.gov/safewater](http://www.epa.gov/safewater)

**To get involved** in decisions affecting your drinking water, attend and comment at Monroe City Council meetings every Tuesday in the Council Chambers at 806 West Main St.

Meetings begin at 7:00pm. Agendas are available on the City's website at [www.monroewa.gov](http://www.monroewa.gov).

### **City of Monroe Elected Officials**

MAYOR: Geoffrey Thomas  
CITY COUNCIL: Patsy Cudaback, Jim Kamp,  
Ed Davis, Jason Gamble, Kurt Goering,  
Kevin Hanford, Jeff Rasmussen

## **Learn more about your water at [www.monroewa.gov](http://www.monroewa.gov)**

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